IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

BIOGEN INTERNATIONAL GMBH and BIOGEN MA INC.,

Plaintiffs,

Civil Action No. 17-823-LPS (Consolidated)

v.

AMNEAL PHARMACEUTICALS LLC, et al.,

Defendants.

DEFENDANTS' NOTICE PURSUANT TO 35 U.S.C. § 282

Pursuant to 35 U.S.C. § 282, Hetero USA Inc., Hetero Labs Limited Unit-III, and Hetero Labs Limited, MSN Laboratories Private Ltd. and MSN Pharmaceuticals Inc., Prinston

Pharmaceutical Inc., Sandoz Inc., Sawai USA, Inc. and Sawai Pharmaceutical Co., Ltd., Shilpa Medicare Limited, Zydus Pharmaceuticals (USA) Inc., and Aurobindo Pharma U.S.A., Inc. and Aurobindo Pharma USA LLC (collectively, "Defendants") hereby give notice to Biogen

International GmbH and Biogen MA Inc. (collectively "Plaintiffs") that Defendants may rely on one or more of the identified prior art (including any file histories corresponding to any identified patents and their priority applications) to show that claims 1-4, 6, 8-13, 15 and 16 of United States Patent No. 8,399,514 ("the '514 patent") are invalid and/or to show the state of the pertinent art:

I. PATENTS AND PATENT PUBLICATIONS

Country	Number	Date Issued/Published	Inventor	DTX
United States	2003/0018072	Jan. 23, 2003	Joshi et al.	DTX-338
United States	2009/034790	Dec. 10, 2009	Nilsson et al.	DTX-339

Country	Number	Date Issued/Published	Inventor	DTX
United States	6,509,376	Jan. 21, 2003	Joshi et al.	DTX-340
United States	7,320,999	Jan. 22, 2008	Joshi et al.	DTX341
United States	7,619,001	Nov. 17, 2009	Joshi et al.	DTX-182
United States	8,399,514	Mar. 19, 2013	Lukashev et al.	DTX-001
International	2006/037342 A2	April 13, 2006	Nilsson, Henrik	DTX-324
International	2007/042034 A1	April 19, 2007	Nilsson, Henrik	DTX-325

II. OTHER PUBLICATIONS

Description

Adis R&D Profile, BG 12: BG 00012, BG 12/Oral Fumarate, FAG-201, second-generation fumarate derivative – Fumapharm/Biogen Idec, Drugs R D, 6(4):229-30 (2005) (DTX-317)

Antel, J., *Oligodendrocyte/myelin injury and repair as a function of the central nervous system environment*, 108 J. Clin Neurol Neurosurg. 245-249 (Mar. 2006) (DTX-408)

Biogen Idec, Effacacy [sic] and Safety of BG00012 in MS: Double-Blind, Placebo-Controlled, Dose-Ranging Study to Determine the Effacacy and Safety of BG00012 in Subjects with Relapsing-Remitting Multiple Sclerosis, (Clinical Trial NCT00168701) ClinicalTrials.gov, (Sept. 14, 2005) (DTX-320)

Biogen Idec, Inc. and Fumapharm AG, Press Release, BG-12 psoriasis study meets primary endpoint; Oral compound also being studied for MS in Phase II trial (Apr. 7, 2005) (DTX-318)

Biogen Idec, Inc. and Fumapharm AG, Press Release, *Oral Compound BG-12 Achieves Primary Endpoint in Phase II Study of Relapsing-Remitting Multiple Sclerosis*, Business Wire (May 30, 2006) (DTX-441)

Biogen Idec, Inc. and Fumapharm AG, Press Release, *Phase II Study of Oral Compound BG-12 Meets Primary Endpoint in Multiple Sclerosis*, Business Wire (Jan. 9, 2006) (DTX-319)

Boutros, T., et al., Interferon- β is a Potent Promoter of Nerve Growth Factor Production by Astrocytes, 69 J Neurochemistry 939-946 (1997) (DTX-409)

Brundula, V., et al., *Targeting Leukocyte Mmps and Transmigration: Minocycline as a Novel Therapeutic gor Multiple Sclerosis*," 125 Brain 1297-1308 (2002) (DTX-410_

Brune et al., Detection of Altered Intracellular TH1- and TH2-Type Cytokine Production of Peripheral Blood Mononuclear cells (PBMCs) in Patients with Relapsing-Remitting Multiple Sclerosis (MIS) Undergoing an Oral Fumaric-Acid Ester Therapy, 4 Multiple Sclerosis: Clin. & Lab. Res. 384, P3038 (Sept. 9-12, 1998) (DTX-411)

Brune et al., *Oral Fumarate Therapy Alters Cytokine Production in Patients with Relapsing-Remitting Multiple Sclerosis*, 10 (suppl. 2) Multiple Sclerosis Clin. & Lab. Res. S259, Abstract P643 (2004) (DTX-412)

Calabresi, P.A., *Diagnosis and Management of Multiple Sclerosis*, 70 American Family Physician, 1935-1944, 1935 (Nov. 15, 2004) (DTX-382)

Chabot, S., et al., Cytokine production in T lymphocyte-microglia Interaction is Attenuated by Glatiramer Acetate: A mechanism for Therapeutic Efficacy in Multiple Sclerosis, 8 Multiple Sclerosis 229-306 (2002) (DTX-413)

Chabot, S., et al., *Microglial Production of TNF-alpha is Induced by Activated T Lymphocytes: Involvement of VLA 4 and Inhibition by Interferonbeta-1b*, 100 J Clin Invest 604-612 (1997) (DTX-414)

Clanet M. et al., A randomized, double-blind dose-comparison study of weekly interferon β -1a in relapsing MS, Neurology, 59:1507-17 (2002) (DTX-443)

Clanet M., *Interferon-beta in the treatment of multiple sclerosis—do data support the existence of a ceiling effect?*, Clinical Drug Invest, 21(4):307-318 (2001) (DTX-444)

Engelhardt, B., *Molecular Mechanisms Involved in T Cell Migration Across the Blood-Brain Barrier*, 113 J. Neural Transm (Vienna), 477-485 (April 2006) (DTX-415)

Farina, C., *Glatiramer acetate in multiple sclerosis: update on potential mechanisms of action*, 4 The Lancet: Neurology 567-575 (Sept. 2005) (DTX-416)

File History of U.S. Patent Application No. 10/197,077 (DTX-321)

Freedman, M.S., *Disease-modifying drugs for multiple sclerosis: current and future aspects*, 7 Expert Opin. Pharmacother. 7 Suppl 1:S1-9 (2006) (DTX-417)

Fumaderm® Label (April 2005) (DTX-322)

Giuliani F., et al., Additive Effect of the Combination of Glatiramer Acetate and Minocycline in a Model of MS, 158 J. Neuroimmunology 213-221 (2005) (DTX-385)

Giuliani F., et al., *Effective Combination of Minocycline and Interferon-B in a Model of Multiple Sclerosis*, 165 J. Neuroimmunology 83-91 (2005) (DTX-386)

Goodin, D.S., et al., Disease Modifying Therapies in Multiple Sclerosis: Report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology and the MS Council for Clinical Practice Guidelines, 58 Neurology 169-178, 169 (Jan. 22, 2002) (DTX-388)

Graat et al., Different Susceptibility Of Osteosarcoma Cell Lines and Primary Cells to Treatment with Oncolytic Adenovirus and Doxorubicin or Cisplatin, 94 Br. J. Cancer 1837-1844 (2006)

Hayes, K.C., *The Use of 4-Aminopyridine (Fampridine) in Demyelinating Disorders*, 10 CNS Drug Reviews, 295-316,308 (2004) (DTX-389)

ICH Harmonised Tripartite Guideline, *Dose- response information to support drug registration*, E4, (March 1994) (DTX-323)

Kappos L et al., Poster, A randomized, placebo-controlled phase 2 trial of a novel oral fumarate, BG00012, in patients with relapsing-remitting multiple sclerosis (2005) (DTX-328)

Kappos L. et al., A randomized, placebo- controlled phase II trial of a novel oral single-agent fumarate therapy, BG00012, in patients with relapsing-remitting multiple sclerosis (Abstract P574), J. Neurology, 252 (Suppl. 2): II/96 (2005) (DTX-326)

Kappos L. et al., Efficacy of a novel oral single-agent fumarate, BG00012, in patients with relapsing-remitting multiple sclerosis: Results of a phase 2 study (Abstract O108), J. Neurology, 253 (Suppl. 2): II/27 (2006) (DTX-327)

Kappos L. et al., Poster, Efficacy of a Novel Oral Single-Agent Fumarate, BG00012, in Patients with Relapsing-Remitting Multiple Sclerosis: Results of a Phase II Study (2006) (DTX-329)

Kolbach D.N. et al., Fumaric acid therapy is psoriasis: Results and side effects of 2 years of treatment, J. Am. Acad. Dermatology, 27(5):769-71 (1992) (DTX-330)

Kurtzke, J.F., Rating Neurologic Impairment in Multiple Sclerosis: An Expanded Disability Status Scale (EDSS), 3 Neurology, 1444-52, 1444 (1983) (DTX-390)_

Kutzelnigg, A., et al., Cortical Demyelination and Diffuse White Matter Injury in Multiple Sclerosis, 128 Brain 2705-12 (Nov. 2005) (DTX-419)

LePage et al., On the use of Neuro-2a Neuroblastoma Cells Versus Intact Neurons on Primary Culture for Neurotoxicity Studies, 17 Crit. Rev. Neurobiol. 27-50 (2005) (DTX-420)

Lindsey, J.W., et al., *Reinduction of Experimental Autoimmune Encephalomyelitis in Mice*, 162 Cell Immunol., 235-240 (1995) (DTX-391)

Metz, L.M., et al., *Minocycline Reduces Gadolinium-enhancing MRI Lesions in Multiple Sclerosis*, 55 Annals of Neurology 756 (2004) (DTX-421)

Mireia Sospedra and Roland Martin, *Immunology of Multiple Sclerosis*, 23 Annu. Rev. Immunol. 683-747, 723 (January 19, 2005) (DTX-424)

Mrowietz U. et al., *Dimethylfumarate for psoriasis: more than a dietary curiosity*, Trends in Molecular Medicine, 11(1):43-48 (2005) (DTX-331)

Mrowietz, U., et al. *Treatment of psoriasis with fumaric acid esters: results of a prospective multicenter study*, British Journal of Dermatology; 138; 456-460 (Oct. 17, 1997) (DTX-392)

Multiple Sclerosis Journal: Immunotherapy Abstract, 9th Annual Meeting of Rehabilitation in MS October 6-9, 2004 Austria Center, Vienna, Austria (Sept. 2004) (DTX-335)

Murray, T.J., Clinical Review: Diagnosis and Treatment of Multiple Sclerosis, 332 BMJ 525-527, 525 (Mar. 4, 2006) (DTX-393)

Neuhaus, O., et al., "Multiple sclerosis: comparison of copolymer-1- reactive T cell lines from treated and untreated subjects reveals cytokine shift from T helper 1 to T helper 2 cells," 97 PNAS 7452-7457 (June 20, 2000) (DTX-425)

Nieboer C. et al., Fumaric acid therapy in psoriasis: A double-blind comparison between fumaric acid compound therapy and monotherapy with dimethylfumaric acid ester, Dermatologica, 181:33-37 (1990) (DTX-332)

Nieboer C. et al., Systemic therapy with fumaric acid derivatives: New possibilities in the treatment of psoriasis, J. Am. Academy of Dermatology, 20(4):601-608 (1989) (DTX-333)

Noble M, The possible role of myelin destruction as a precipitating event in Alzheimer's disease, Neurobiol Aging 25:25-31, 2004 (DTX-460)

O'Connor, P., *Natalizumab and the role of alpha 4-integrin antagonism in the treatment of multiple sclerosis*, 7 Expert Opin. Biol. Ther. 123-136 (2007) (DTX-426)

O'Neill G.M., Presentation, *BG00012 in RRMS: Update from phase 2 study*, National Faculty Meeting, Bonita Springs (January 27th-29th, 2006) (DTX-247)

Richter A., et al., *The impact of reducing dose frequency on health outcomes*, 25 (8) CLIN. THERAPEUTICS 2307-35 (2003) (DTX-334)

Schimrigk S., et al., *A prospective, open-label, phase II study of oral fumarate therapy for the treatment of relapsing-remitting multiple sclerosis* (Abstract P642), Multiple Sclerosis: Clinical & Laboratory Res., 10 (Suppl. 2): S258-59 (2004) (DTX-335)

Schimrigk S., et al., *Oral Fumaric Acid Esters (FAE) in Relapsing-Remitting Multiple Sclerosis (RRMS). A Short Term, Open, Clinical, Immunological and Magnetic Resonance Imaging (MRI) Controlled Phase II Trial* (Abstract 144), J. Neurology, 246(1):36 (1999) (DTX-336)

Schimrigk S., et al., Poster, *A prospective, open-label, phase II study of oral fumarate therapy for the treatment of relapsing- remitting multiple sclerosis*, available at http://www.fumapharm.ch:80/pdf /BG- 12_Schimrigk_Poster_Final.pdf (Oct. 21, 2004) (DTX-337)

Schimrigk, et al., Oral Fumaric Acid Esters For The Treatment Of Active Multiple Sclerosis: An Open-Label, Baseline-Controlled Pilot Study, European Journal of Neurology 13:604-610 (2006) (DTX-458)

Schreibelt, G., et al., *Lipoic Acid Affects Cellular Migration into the Central Nervous System and Stabilizes Blood-Brain Barrier Integrity*, 177 J. Immunology 2630-2637 (2006) (DTX-427)

Schreibelt, G., et al., *Therapeutic Potential and Biological Role of Endogenous Antioxidant Enzymes in Multiple Sclerosis Pathology*, 56 Brain Research Reviews 322-330, 326 (2007) (DTX-428)

Shishodia, S., et al., *Modulation of Transcription Factors by Curcumin*, Ad. Exp. Med. Biol. 127-148 (2007) (DTX-429)

Smith, K.J., et al., *Demyelination: The Role of Reactive Oxygen and Nitrogen Species*, 9 Brain Pathology 69-92, 69 (1999) (DTX-431)

Smith, K.J., et al., *Electrically Active Axons Degenerate when Exposed to Nitric Oxide*, 49 Annals of Neurology 470–476 (2001) (DTX-432)

Stüve, O., et al., *Interferon Beta-1b Decreases the Migration of T Lymphocytes In Vitro: Effects on Matrix Metalloproteinase*, 40 Annals of Neurology 853 863 (1996) (DTX-433)

Tegretol® Label (Carbamazepine USP), (Feb. 2000) (DTX-399)

Tong, K. I., et al., *Two-Site Substrate Recognition Model for the Keap1-Nrf2 System: A Hinge and Latch Mechanism*, 387 Biol. Chem. 1311-1320, 1312 (Oct./Nov. 2006) (DTX-434)

Topamax® Label (Topiramate), June 29, 2005 (DTX-400)

Van Horssen, J., et al., *NAD(P)H:Quinone Oxidoreductase 1 Expression in Multiple Sclerosis Lesions*, 41 Free Radical Biol. & Med. 311-317 (2006) (DTX-435)

Van Meeteren, M.E., et al., *Dietary Compounds Prevent Oxidative Damage and Nitric Oxide Production by Cells Involved in Demyelinating Disease*, 67 Biochem. Pharmacol. 967–975 (2004) (DTX-436)

Viglietta, V., Loss of Functional Suppression by CD4+CD25+ Regulatory T cells in Patients with Multiple sclerosis, 199 J. Exp. Med. 971-979 (April 5, 2004) (DTX-437)

Virley, D.J., *Developing Therapeutics for the Treatment of Multiple Sclerosis*, 2 NeuroRx: The Journal of the American Society for Experimental NeuroTherapeutics, 638-649, 640 (Oct. 2005) (DTX-396)

Weber, M.S., et al., *Multiple sclerosis: glatiramer acetate inhibits monocyte reactivity in vitro and in vivo*, 127 Brain 1370-78 (June 2004) (DTX-438)

Whitman GT, Cotman CW, *Oligodendrocyte degeneration in AD*. Neurobiol Aging 25:33-36, 2004 (DTX-462)

Wiendl, H. and Hohlfeld, R., *Therapeutic Approaches in Multiple Sclerosis Lessons from Failed and Interrupted Treatment Trials*, 16 Biodrugs, 183-200, 192 (2002) (DTX-397)

Yong, V.W., Differential Mechanisms of Action of Interferon-B and Glatiramer Acetate in MS, 59 Neurology 802-808 (2002) (DTX-439)

Zipper, L.M and Mulcahy, R. T., *The Keap1 BTB/POZ Dimerization Function is Required to Sequester Nrf2 in Cytoplasm*, 277 J. Bio. Chem. 36544-52, 36544 (Sept. 27, 2002) (DTX-440)

Defendants further disclose that the asserted claims of the '514 patent are invalid for improper inventorship and derivation from communications with reviewers at the FDA regarding the design of Biogen's Phase III clinical trials.

Defendants affirmatively state that they have already provided notice/will provide notice to Plaintiffs of the identity of certain publications and patents within the ambit of 35 U.S.C. § 282, through the pleadings, invalidity contentions, correspondence and other documents in this case, including, but not limited to, expert witness reports and materials cited therein, expert witness testimony, Defendants' prior responses to interrogatories, and the Joint Pretrial Order. Defendants expressly incorporate herein by reference all of those documents, and the publications and patents within the ambit of § 282 previously cited therein, to the extent not listed above. Additionally, to

the extent not listed above, Defendants incorporate by reference each document listed on the face of or included in the prosecution history of the '514 patent. Defendants also incorporate by reference each of the expert reports (including reply reports) of Dr. Gary A. Stobbe, Dr. V. Wee Yong, and Dr. John William Lindsey, and any prior art cited therein, in Civil Action No. 17-823-LPS.

Dated: November 08, 2019

PHILLIPS, GOLDMAN, MCLAUGHLIN & HALL, P.A.

/s/ David A. Bilson

John C. Phillips, Jr. (#110) David A. Bilson (#4986) 1200 North Broom Street Wilmington, DE 19806-4204 (302) 655-4200 jcp@pgmhlaw.com dab@pgmhlaw.com

Attorneys for MSN Laboratories Private Ltd. MSN Pharmaceuticals Inc, Sandoz Inc., Prinston Pharmaceutical Inc., and Zydus Pharmaceuticals (USA) Inc.

BAYARD, P.A.

/s/ Stephen B. Brauerman Stephen B. Brauerman (#4952) 600 N. King Street, Suite 400 Wilmington, DE 19801 (302) 655-5000 sbrauerman@bayardlaw.com

Attorneys for Hetero USA Inc., Hetero Labs Limited Unit-III, Hetero Labs Limited, and Shilpa Medicare Limited

CONNOLLY GALLAGHER LLP

/s/ Stephanie S. Riley

Arthur G. Connolly, III (#2667) Stephanie S. Riley (#5803) 1201 Market Street 20th Floor Wilmington, DE 19801 (302) 757-7300 aconnolly@connollygallagher.com sriley@connollygallagher.com

Attorneys for Aurobindo Pharma U.S.A., Inc. and Aurobindo Pharma USA LLC

HEYMAN ENERIO GATTUSO & HIRZEL LLP

/s/ Dominick T. Gattuso

Dominick T. Gattuso (#3630) 300 Delaware Ave., Suite 200 Wilmington, DE 19801 (302) 472-7300 dgattuso@hegh.law

Attorneys for Sawai USA, Inc. and Sawai Pharmaceutical Co., Ltd.